Message

From: Kay, Robert [rtkay@usgs.gov]
Sent: 2/26/2013 5:05:27 PM
To: Nordine, John [nordine.john@epa.gov]
Subject: Techalloy

John--just got back from vacation. Here's the review of the Techalloy stuff.

10-2012 Monthly Report
I'm OK with pretty much everything here except I have a couple issues with the discussion of the water-level data.

A. If Techalloy got rid of the breaks in the data they could get a complete graph of the water levels in Sept. and early Oct. rather than having to break the plots up into several graphs which show some odd data, and breaks in the data. At least this presentation is possible with my version of Excel. In any event, Techalloy's graphs are inadequate to support this discussion and need to be improved. They should look more line the plot for 9/29-10/2 than the rest of the plots.

B. For the water-level trends in DGW-2I noted on 9/24-10/3, 0.5 ft of water-level decline was observed in the well during this period, when the irrigation well(s) were pumped for 26 and 58 hours. I checked USGS groundwater level data from wells open to the glacial drift west of Marengo during this time period and the water-level change showed a downward spike of about 0.2 to 0.8 ft during this time period, with a 0.8 ft downward spike on Oct. 1. This trough was clearly related to pumping, but almost certainly not the [redacted] wells. The data from another other wells north of Union shows a slight ((0.05 ft) downward trend. Basically the closest background well shows no change during this time period.

C. Techalloy is correct that most of the 0.5 ft drop in water level occurred from the evening of 9/23 through the early afternoon of 2/25, but I don't see how this drop can be related to precipitation--either its presence or absence. The decline in water level is fairly precipitous and occurs mainly on the 24th. Because there had been some decline in water levels likely before the time of measurement of 0 pumping hours on 9/24, this decline is not clearly related to pumping, but it seems to be more closely attributable to pumping than precipitation.

D. There were other fairly large decreases in water level at DGW-2I in Sept., like the about 0.7 ft drop on the 14th through the 17th. Can Techalloy provide pumping data for the period before 9/24? It's helpful to have the pumping and water-level data for the full period of record, or at least for the full period of record covered by this (and each prior) monthly report. We need a month by month analysis of ALL the water level and pumping data to more clearly determine what's going on here, at least for this calendar year. I was hoping we could look at a few time periods to see at pattern, but one time period is insufficient, and the pattern it shows is ambiguous.

There are a number of additional files Jack sent, so I may revise some of what I wrote in "D" here. will get them to you by COB tomorrow at the latest.